The March 2021 Edition of:

Nikki's Newsletter

Marshall County's Agriculture and Natural Resources Update

University of Kentucky
College of Agriculture, Food and Environment

Cooperative Extension Service
University of Kentucky
Marshall County
1933 Mayfield Highway
Benton, KY 42025
(270) 527-3285
extension.ca.uky.edu

The daffodils are blooming and the temperatures are hitting the 70's! Spring is upon us ya'll! The daffodils always remind me that it is time to transplant onions and plant potato eyes! It's time to get some dirt under those nails!

With the decrease in Covid-19 cases, UK has loosened the ***meeting restrictions*** slightly. If proper precautions are taken, I can host approved programs of 18 people or less in the meeting room!

We are happy to announce that we are creating a **Direct Market Farmer *Directory***! This is for any farm that sells products they raise directly to consumers. You should have received a call in the last month or so from my office asking to update your information in our system and if you wanted to be added to the grower directory. If you didn't get a call, please call us. The updated information will help me reach you with more relevant information and the directory will help locals find your products! See page 3.

Private applicator trainings: If you failed to make one of the three scheduled offerings, please make a point to attend the last minute training I have arranged on March 26th at 9am. This is the last group program I will offer. Also, please note that every time I do a one-on-one program with you guys, it puts me back 3 hours. Please be considerate of my time. Thank you.

I have had a lot of questions about the ***Farmers Market***. If you plan to sell at the market then please make a point to attend the vendor meeting. See page 3.

Many have asked if the Master Gardeners will be having their yearly ***plant sale*** and the answer is yes! The sale will be on May 15th. The proceeds from the sale are used in many ways. The largest impact is the MG scholarship. The gardeners are putting up $2,000 in ***scholarships*** for local agriculture students. See page 2.

Try to stay dry!

IN THIS ISSUE:

GENERAL
P.2 AGRICULTURE SCHOLARSHIPS

COMMERCIAL HORTICULTURE
P.3 DIRECT MARKET FARMER DIRECTORY + FARMERS MARKET MEETING

LIVESTOCK /FORAGE
P.4 POISON HEMLOCK AND BUTTERCUP CONTROL

CROPS
P. 5-6 SPRING BURNDOWN CONSIDERATIONS

HOME HORTICULTURE
P.7 NATIVE TREES + HORTICULTRE WEBINAR WEDNESDAYS

RECIPE OF THE MONTH
P.8 SPINACH PASTA BAKE

University of Kentucky
College of Agriculture, Food and Environment
Cooperative Extension Service

Marshall Master Gardener Association

$1,000 Scholarships

Who is eligible?

High school seniors or college students from Marshall County with a 2.5+ GPA who are pursuing an agriculture or plant science related degree

Where to apply?

Marshall County Extension Office
1933 Mayfield Hwy
Benton KY 42025
270-527-3285

When to apply?

Deadline to apply is June 1st, 2021

Direct Market
Farmer Directory

The Marshall County Extension office, in an effort to help local farmers promote sales, are preparing a Marshall Co. Grower's Directory. This directory is for farmers that sell directly to the consumer. Some of the items included: ornamentals, fruits, vegetables, meats, honey, hay, straw, eggs, jams, syrup, etc. The farmer's contact information, where their products can be purchased and when items are available are listed as well. Contact the Marshall County Extension Office at (270)527-3285 to have your farm/name listed in the directory. Deadline to have your farm/name in the directory will be Friday, March 26th at 4:30 p.m. This is a free service to farmers and the directory will be distributed free of charge to the public. If you want more information, please feel free to call the Extension Office and ask for Roxanne Lee, Program Assistant at Roxanne.lee@uky.edu or Nikki Rhein, Agriculture and Natural Resource Agent at Nikki.rhein@uky.edu.

University of Kentucky
College of Agriculture, Food and Environment

Marshall County Farmers' Market
Vendor Meeting

April 6th
5:30 pm
Marshall County Extension Office

Agenda:
Vendor Registration
Scale Certification
Market Planning

All vendors are expected to be in attendance.
See you there!

Cooperative Extension Service
Agriculture and Natural Resources
Family and Consumer Science
4-H Youth Development
Community and Economic Development

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, or physical or mental disability. UNIVERSITY OF KENTUCKY, KENTUCKY STATE UNIVERSITY, U.S. DEPARTMENT OF AGRICULTURE, AND KENTUCKY COUNTIES, COOPERATING

LEXINGTON, KY 40546

Disabilities accommodated with prior notification

Control Efforts for Poison Hemlock and Buttercups Begin in Late Winter

Dr. J.D. Green, UK Extension Weed Specialist

Late winter is one of the best times of the year to assess fields and fencerows for presence of cool-season weeds. Further, the preferred time to implement control tactics can often be in March as daytime air temperatures begin to rise and are maintained above 55F. This is when cool-season weeds are younger and begin their active vegetative growth before initiating flowers later in the spring. Winter annual and biennial weeds typically germinate from seed in the fall and produce flowers during the spring.

Poison hemlock is easily recognized throughout the winter and early spring. Classified as a biennial, it often grows as a winter annual in Kentucky, particularly plants that germinate during the previous fall. Poison hemlock plants form rosettes that remain green throughout the winter in a somewhat semi-dormant stage (Figure 1). These young rosettes are often found in areas where poison hemlock was present the previous year, particularly along fence rows and other isolated areas. Younger plants can be identified by their fern-like leaves with leaf petioles that have purple spotting and no hairs. After resuming active growth in late winter, they form larger rosettes. Later flower stalks elongate during the spring producing clusters of white flowers in June. Mature plants can grow up to 6 to 9 feet tall (Figure 2).

The best time for control using herbicides is generally when plants are in the younger rosette stages of growth in late February and early March. Herbicide products containing 2,4-D, dicamba+2,4-D (eg. Weedmaster, Brash, Rifle-D, etc.), and aminopyralid (i.e. GrazonNext, DuraCor) are the preferred choices for obtaining effective control. Effectiveness of chemical control can decrease as plants begin to elongate and become more mature. Poison hemlock plants can be toxic to animals; therefore, when using herbicidal control methods on larger plants it is important to remove animals from treated areas. Animals are more likely to graze poison hemlock plants following herbicide treatment than before. On mature plants mechanical methods such as mowing can be an alternative control method if infested areas are accessible. Mowing and other mechanical control efforts should be done after flower stalks elongate but before plants begin to flower.

Photos:

Left- Poison Hemlock Rosette
Middle- Mature Poison Hemlock
Right- Buttercup

Another common weed we observe during the spring in grazed pasture fields are the buttercups (Figure 3). Various species of buttercup (Ranunculus spp.) are likely to be found in Kentucky. These include Bulbous, Creeping, Hispid, Tall, and Smallflower buttercup. Although their leaf shape, flowers, and other characteristics may vary, many buttercup plants can be noticed by their yellow flowers, commonly with five waxy-like petals. Like other winter annual weeds, buttercup often emerge in the fall, but they can also germinate in late winter and early spring. The peak of the flowering period usually occurs in April, but may persist into May. When flowers are observed, new seed may already be in development on the flower stalks.

Buttercup is more frequently found in fields or field areas that are utilized or heavily grazed in the fall and winter months. This results in thin, bare areas throughout the field creating an environment whereby buttercup seed can readily germinate and seedling plants can thrive. Therefore, one long-term control strategy involves utilizing management practices which help promote growth of desirable forage species and minimize bare areas. Interseeding more desirable forage species may be another practice to consider. This is not always practical in some fields that are essential for winter feeding.

In the short-term, herbicide treatment in early spring is an option. Herbicide products that contain 2,4-D, or other broadleaf type pasture herbicides are generally effective on most buttercup species. To be most effective, herbicide treatment should be completed when plants are in the vegetative stages of growth before flowers develop and produce new seed. **Hence, herbicide applications should normally occur by late March.** Treatments after flowering offer little benefit since buttercup plants are already producing new seed and plants die back naturally by late spring and will not be present the remainder of the year. If you do see developing cool-season weed problems as we transition from late winter into early spring you may need to take action soon to begin to correct these problems. In general, herbicide products that contain 2,4-D are usually effective on younger rosettes of poison hemlock, biennial thistles, and buttercups. Another course of action in the spring is a “wait and see” approach before implementing a control tactic. Yet, keep in mind that smaller weeds are easier to control using herbicide treatments than after they increase in size and become more mature.

Spring Burndown Considerations

Travis Legleiter, Asst. Extension Professor

The February snow has melted, the days are getting longer, and daytime temperatures are on the rise. This means one thing: spring is here. The winter annuals have already taken notice with many already greening up in western Kentucky the first week of March. Spring burndowns prior to corn and soybean planting will begin soon if they haven't already and while most winter annuals are controlled relatively easily with our traditional burn-down, there are a few species that tend to be a pain every year.

Italian (annual) ryegrass

This species continues to climb the ranks as a troublesome weed for many Kentucky growers. This weed is a well-known pest in Kentucky wheat, but the number of complaints of failed burndowns on annual ryegrass in corn and soybean is on the rise. This weed is no longer just a wheat problem for Kentucky it is a problem in all row crops.

Annual ryegrass emerges in the fall, rapidly grows into the late fall putting on a couple of tillers, then continues to grow in the early spring. Annual ryegrass has already begun to green up and will begin rapid growth in late March and early April. The key for successful annual ryegrass burndown is all about timing. Successful annual ryegrass burndowns occur when the plants are 6" or less in height and have not started stem elongation. Additionally, it is also key to apply burndowns to ryegrass when temperatures are consistently above 45F overnight for 2 to 3 days prior to and after the burndown application. This window of time capturing both the correct growth stage and air temperatures can be difficult to find, especially when you also consider that field soil conditions need to be dry enough for sprayer traffic.

In evaluations of spring burndown options for ryegrass control in Kentucky, the following keys stand out:

- Use at least 1.5lb ae/a glyphosate (See table 1 for glyphosate rate based on formulation)
- Mixtures of 1.5 lb ae/a glyphosate plus 1 fl oz Sharpen results in the consistently greatest ryegrass control
- Avoid tank mixing glyphosate and atrazine or metribuzin as these products will antagonize glyphosate activity in ryegrass

For those dealing with ryegrass in corn the temptation is to put the burndown and preemergence herbicide on at the same time prior to corn planting. While, that has proven to be successful for the majority of acres and weed species, the inclusion of a pre-emerge herbicide that likely contains atrazine can antagonize the glyphosate. In these scenarios a farmer is better suited to apply their burndown without atrazine early in the spring and follow with an at-planting application of the atrazine based residual herbicide.

Marestail (horseweed)

Another culprit that continues to be problematic for Kentucky grain crop growers is marestail or horseweed. Marestail is most troublesome due to its seemingly random emergence patterns. Marestail can emerge in the fall, early spring, late spring, as well as throughout the early summer months. While the majority of our marestail emerges in the fall or in the early spring, the continual emergence into the summer makes this species especially troublesome for soybean farmers.

The biggest key for marestail management is burndown timing, regardless of what herbicide you are using for your burndown making applications to small rosette stage marestail is critical. The wide range of emergence timing for marestail means every field is likely to have different stages of marestail. Fields at the UKREC with heavy winter annual pressure that were scouted on March 1, 2021 (Photo 1) had marestail plants that were only 1 to 2 inches in rosette diameter, while other fields on the research farm with light winter annul infestations had rosette marestail plants up to 8 inches in diameter (Photo 2). Scouting now is key to identifying fields that need earlier burndowns to achieve optimal marestail burn-down.

Continued:

In the scenario of a field having overall heavy and diverse infesta-tion of winter annual weeds (such as in Photo 1), it is easy to over-look the small marestail plants that often occur underneath the large pennycress and cressleaf groundsel plants. The temptation may be to simply apply glypho-sate as it can efficiently control all of the winter annual weeds that are easy to see when scouting from the road. In these scenarios the glyphosate will kill all the winter annuals except the marestail and by soybean plant-ing the field will be overgrown with marestail. It is always important to scout the entire field and not only account for the obvi-ous weeds, but those that may be hiding underneath.

Scouting now is key to understand if marestail is present and what growth stage the marestail is at; and then de-termine the priority of fields for spring burndowns to maximize marestail control.
Overall, we have found the following burndowns to be most effective for marestail:

Glyphosate (1 to 1.5 lb ae/a) plus Sharpen (1 fl oz/a)
Glyphosate (1 to 1.5 lb ae/a) plus Dicamba (0.25 to 0.5 lb ae/a)
Glyphosate (1 to 1.5 lb ae/a) plus 2,4-D (0.7 to 1 lb ae/a)
Glyphosate (1 to 1.5 lb ae/a) plus Elevore (1 fl oz/a)
Liberty (29 to 36 fl oz/a)

The recent introduction of Enlist E3 and RR2Xtend/RR2XtendFlex soybean varieties has greatly increased the flexibility of 2,4-D and Dicamba for burndown applications in front of soybean planting for effective marestail control. Farmers using either of these soybean systems in fields with marestail are encouraged to take advantage of this flexibility and use these effective growth regulators for spring burndowns.
Fields of Yellow and Purple

No-till field have started to green up the past week or two and many will be transitioning to hues of either purple or yellow. The yellow fields are likely either infested with a mustard species or cress leaf groundsel and the pur-ple fields are infested with either purple deadnettle or henbit and in many cases, both. These fields also may contain many other common winter annuals such as field pennycress, shepardspurse, fleabanes, and chickweeds.
Luckily many of these weeds are fairly easily controlled with combinations of common burndown products such as glyphosate, paraquat, 2,4-D, and Dicamba. Often these field are allowed to go unmanaged well into the spring/early summer until just prior to soybean planting due to the high effectiveness of burndown herbicide on these species. Despite the confidence of this trend, it should be noted that it can be beneficial to burndown earlier in the spring to allow for quicker soil warming and drying for earlier optimal planting conditions. There are a number of ALS-inhibitor based residual herbicides that can be applied as an early burndown up to 30 days prior to soybean planting. When mixed with glyphosate, paraquat, 2,4-D, or dicamba these products can provide an effective burndown and also keep the field relativity clean of early emerging summer annuals and late emerging winter annuals up to crop planting. A list of these products and planting time restrictions can be found in Table 2. It should be noted that these products do not replace in-season residual herbicides for problematic summer annuals, but rather assist in keeping fields clean from early burndown up to crop planting.

Table 1. Glyphosate product formulations and equivalent use rates to achieve outputs of 0.75, 1.13, and 1.5 pounds glyphosate acid equivalent per acre.

Example Product(s)*	Formulation *lb ae/gal***	Rate Equivalents		
		0.75 lb ae/a	1.13 lb ae/a	1.5 lb ae/a
Buccaneer, Cornerstone Plus, Mad Dog	3	32 fl oz	48 fl oz	64 fl oz
Durango DMA, Conerstone 5 Plus, Credit 5.4 Extra	4	24 fl oz	36 fl oz	48 fl oz
Abundit Edge, Credit Xtreme	4.5	22 fl oz	32 fl oz	44 fl oz
Roundup PowerMAX 3	4.8	20 fl oz	30 fl oz	40 fl oz

* A complete list of glyphosate products can be found on page 21 of the 2021 edition of AGR-6
** Glyphosate in pounds acid equivalent per gallon

Table 2. Early spring ALS-inhibitor residual burndown herbicides that can be tank mixed with glyphosate, paraquat, 2,4-D, and/or dicamba for control and suppression of early emerging summer annuals and late emerging winter annuals up to planting.

Herbicide	Active Ingredients	Use Rates	Plant Back Restrictions	
			Soybean	Corn
Canopy EX	chlorimuron+ tribenuron	1.1 to 3.3 oz/a	1.1 to 2.2 oz/a – 7 days >2.2 oz/a – 14 days	10 months
First Shot	thifensulfuron + tribenuron	0.8 oz/a	7 days	14 days
Leadoff	rimsulfuron + thifensulfuron	1.5 oz/a	BOLT Soybean- 0 Days Soybean without BOLT -30 Days	0 days
Crusher	rimsulfuron + thifensulfuron	1 oz/a	BOLT Soybean- 0 Days Soybean without BOLT -30 Days	0 days

Native Trees Add Variety to Your Landscape

William Fountain, Extension Professor, Department of Horticulture

Sure, we love our dogwoods and redbuds in the spring, but why limit ourselves to using only those two trees? There are many native trees that could add beauty and variety to your landscape over all four seasons. Plus, a diversity of plantings will attract and sustain more native wildlife. Well-landscaped homes can improve resale value by 7% to 10%.
Here are some native trees that could work well in your landscape.

Yellowwood is thought to be our best medium-sized, native flowering tree. Its white, fragrant, pea-like flowers hang in 15-inch-long clusters in spring, and the tree offers attractive yellow fall foliage. Its fruit is a typical yellow-green legume pod and ripens in the fall. Yellowwood also has a beautiful framework of branches with smooth, gray bark that provides winter interest, but the tree's multiple trunk habit makes it prone to limb breakage at the crotch. It must be pruned to ensure good branch angles.
Allegheny serviceberry is a multi-stemmed small tree reaching up to 25 feet tall. It produces large white flowers very early in spring and bluish green fruit that attracts birds. Allegheny serviceberry grows best in partial shade; it will show signs of stress if grown in full sun in dry areas. The cultivar A. laevis 'Cumulus' usually grows from a single stem and has a moderately columnar growth habit. It is offered more commonly than the species. Allegheny serviceberry is especially attractive when planted in front of an evergreen background. There are many other types of serviceberries. You can't go wrong with any of them.

Blackgum, with its waxy spring foliage, brilliant orange to scarlet red to deep purple fall color and striking winter form, has great ornamental value. As it grows older, its graceful, drooping branches add to the distinct form and beauty of this tree. Blackgum adapts to extreme climates, tolerates wet conditions and is resistant to drought. Although it will grow in full sun or partial shade, its fall color is enhanced by sunny conditions. Flowers are small and insignificant. The bitter, half-inch blue-black drupes are not particularly ornamental but are favored by wildlife.

Sourwood. Truly a tree for all seasons, sourwood is one of our most beautiful natives and is ideal as a small specimen tree. It has lovely flowers that open in mid-summer, excellent fall color and hanging clusters of fruit in the winter. Fall color ranges from red to purple to yellow, and all three colors are often on the same tree. It has the best red of any of our natives. The tree can be grown in full sun or partial shade although flowering and fall color are best in full sun. Sourwood trees are very attractive to bees and sourwood honey is common in the South. In order to grow well, it requires an acidic soil high in organic matter. Limestone in the soil or soils derived from limestone are a prescription for failure.

Green hawthorn is an adaptable, urban-tolerant tree that offers winter interest with its abundant and attractive orange-red fruit. It has pretty red to gold foliage in fall and handsome silver-gray peeling bark that shows orange underneath. Its lower branches need to be pruned to a height of 6 to 8 feet in high-traffic areas because of the tree's inch-long thorns. 'Winter King' is an excellent cultivar for the landscape and is superior in flower and fruit production.

Carolina silverbell is a good small tree for shrub or woodland borders. It may have a rounded, pyramidal or vase-shaped habit. Its white, bell-shaped flowers bloom in April and May and are best seen from below the tree, since they hang on pendulous stalks. Carolina silverbell is relatively pest resistant as long as it is in a good soil and not stressed by drought. The tree is especially attractive when set off against an evergreen background. Rhododendrons, which also require a good, organic soil, grow well beneath it.

Information about these and other native trees can be found at https://www.uky.edu/hort/Native-Trees-of-Kentucky. For more information on how to train or prune a tree for a good branching habit, consult an ISA Certified Arborist. You can find one near you at https://www.treesaregood.org/.

For additional information on landscape plantings, contact the Marshall County office of the University of Kentucky Cooperative Extension Service.

Spinach Pasta Bake

2 cups whole wheat penne pasta
1 pound lean ground beef
1 large onion, chopped
1 large carrot, shredded
1 teaspoon black pepper
1½ teaspoons dry basil
1 teaspoon garlic powder
1 teaspoon dried oregano
1 can (14 ounces) Italian diced tomatoes, drained
10 ounces fresh spinach, chopped
1 cup low-fat shredded Mozzarella cheese

Preheat oven to 350 degrees F. **Cook** pasta according to package directions. **Drain** and **cover** to keep warm. In a large skillet over medium heat, **cook** the beef and onions until beef is no longer pink. **Drain. Return** beef to skillet. **Add** carrots and spices and **cook** an additional two minutes. **Stir** in tomatoes. **Reduce** heat to low. **Cover** and **simmer** 10 minutes. **Add** pasta and spinach and mix well. **Cover** and **cook** an additional 3 minutes or until spinach is wilted. **Pour** into greased 3-quart baking dish. **Sprinkle** with Mozzarella cheese. **Bake**, uncovered for 10 minutes.

Yield: 9, 1 cup servings

Nutritional Analysis: 200 calories, 4.5 g fat, 2 g saturated fat, 35 mg cholesterol, 270 mg sodium, 25 g carbohydrate, 4 g fiber, 4 g sugars, 18 g protein.

Plate it up! Kentucky Proud

Buying Kentucky Proud is easy. Look for the label at your grocery store, farmers' market, or roadside stand.
http://plateitup.ca.uky.edu

Kentucky Spinach

SEASON: May-June and September-November.

NUTRITION FACTS: One cup serving of raw spinach has 10 calories. Packed with vitamins that promote health, it is a major source of vitamins A and C. It is also a good source of calcium.

SELECTION: Look for bright green leaves that are fresh, young, moist and tender. Avoid coarse stems and injured, torn, dried, limp or yellowed leaves.

STORAGE: Store in the coldest part of the refrigerator for no more than 2 to 3 days.

PREPARATION: Wash in lukewarm water in a large bowl. Remove any roots, rough ribs and the center stalk, if it is large or fibrous.

Source: www.fruitsandveggiesmatter.gov

PRESERVING: Wash leaves and remove large stems. Blanch 2 minutes, cool, drain and pack in canning or freezer jars or plastic freezer boxes, leaving ½-inch headspace. Seal, label and store up to one year in the freezer.

SPINACH PASTA BAKE
Kentucky Proud Project
County Extension Agents for Family and Consumer Sciences
University of Kentucky, Dietetics and Human Nutrition students
March 2016

COOPERATIVE EXTENSION SERVICE
UK UNIVERSITY OF KENTUCKY College of Agriculture, Food and Environment

For more information go to:
http://marshall.ca.uky.edu/AgNaturalResources
or follow us on Facebook @marshallcountyanr

Marshall County Agriculture and Natural Resources Agent